

Two new Western Australian species of *Lomandra* Labill. (Xanthorrhoeaceae)

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Abstract

Choo, T. S. (Roland). Two new Western Australian species of *Lomandra* Labill. (Xanthorrhoeaceae). Nuytsia 5(1): 43-48 (1984). Two new species of *Lomandra*, *L. brittanii* and *L. maritima*, are described and figured. They are both restricted to the south-west of Western Australia. *Lomandra brittanii* occurs east and up to 100 km south-east of Perth and *L. maritima* occupies coastal habitats over a range from c. 200 km north to c. 70 km south of Perth.

Introduction

This paper is presented to validate names for the forthcoming "Flora of the Perth Region". It is based on work conducted at the University of Western Australia during 1967 and 1968 and embodied in a Master's thesis (Choo 1969). Species studied included all the then recognized Western Australian species of *Lomandra*.

Lomandra brittanii Choo, sp. nov. (Figure 1)

Differt a *L. pauciflora* (R.Br.) Ewart: inflorescentiiis femineis racemosis paucifloris, inflorescentiiis masculis spicatis; bracteis florum femineorum pro genere longissimis (10-25 mm longis); caulibus rectis brevissimis (0.5-1 cm).

Typus: 28 mile peg on Albany Highway, south-east of Perth, Western Australia. 9 Nov. 1967. Choo, T. S. 67104 (male) (holo: PERTH).

Perennial, rhizomatous, dioecious *herbs*. *Leafy stems* erect and short, very densely tufted. *Leaves* basal, soft, narrow-linear, flat or concave, 5-20 cm long, 0.5-1 mm broad, apex rounded; *sheathing bases* white or yellowish, margins scarious and sometimes splitting into fibres. *Male inflorescences* small and inconspicuous, spicate, 3-8 cm long, bearing 6-20 flowers in groups of two or three. Each *male flower* subtended by a bract and bracteole; *bract* scarious, lanceolate to ovate, 1.5-10 mm long, 0.7-1.5 mm broad; *bracteole* scarious, ovate to very broadly ovate, 0.5-2 mm long, 0.5-1 mm broad. *Female inflorescences* very much reduced racemes, 1-3 mm long, hidden among the leaves, bearing a single terminal cluster of 1-5 flowers. Each *female flower* subtended by a conspicuous bract and bracteole; *bract* larger, scarious, narrowly lanceolate to lanceolate, 10-25 mm long, 1-2 mm broad; *bracteole* similar but smaller, 3-10 mm long, 1-1.5 mm broad. *Male flowers* purple or yellowish-purple, globular, 2.5-3.5 mm long, sessile, rarely lower flowers on very short pedicels, 0.5-1 mm long. *Tepals* free, 3-, 5- or 7-nerved, incurved, differentiated into an outer sepaloid whorl and an inner petaloid whorl; *outer tepals* shorter and narrower, purple, membranous, narrowly ovate to broadly elliptic, 1.5-2 mm long, 1-1.5 mm broad; *inner tepals* longer and broader, purple or yellowish-purple, thick and fleshy with membranous

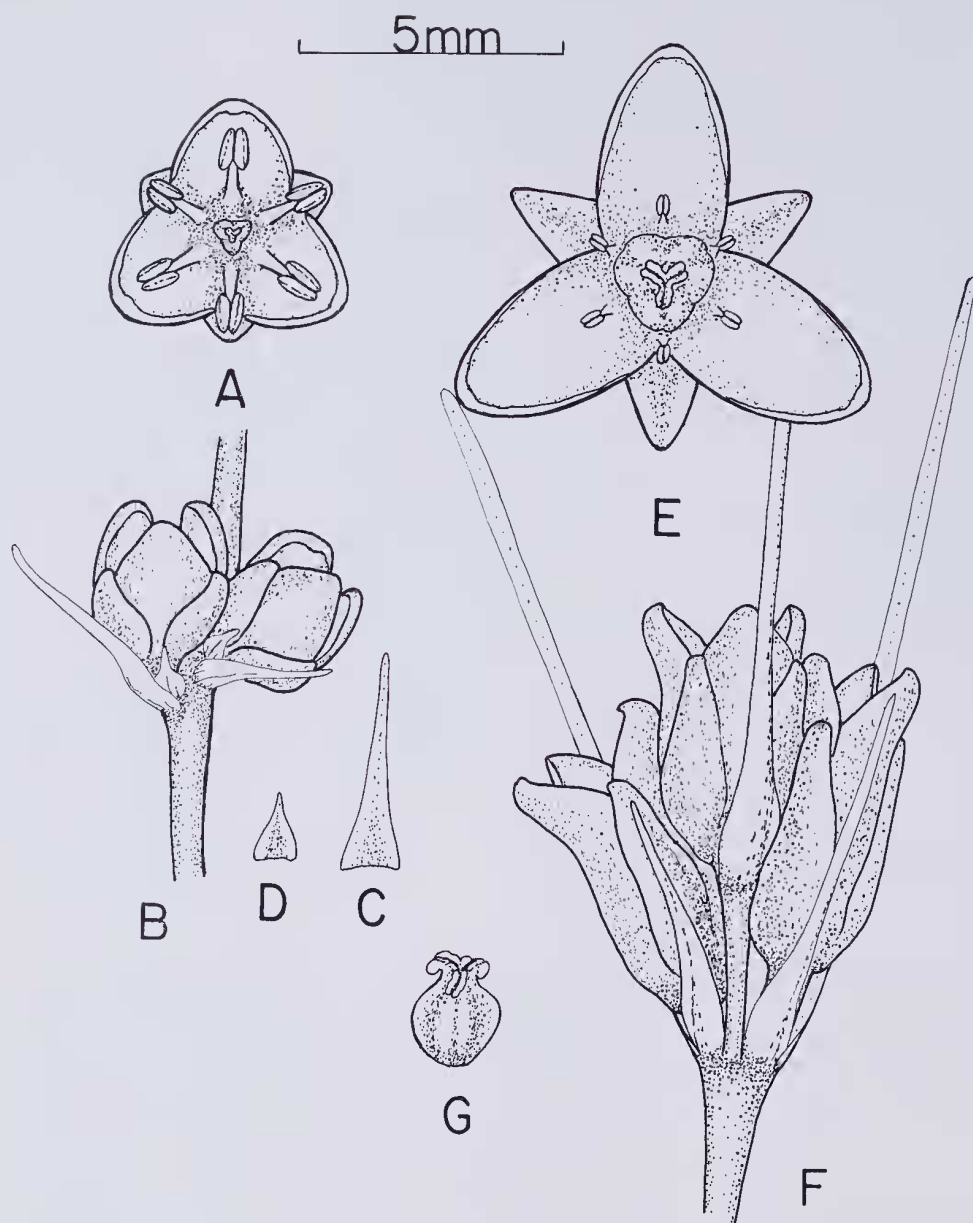


Figure 1. *Lomandra brittanii*. A and B—Male flowers; C—Bract of male flower; D—Bracteole of male flower; E—Female flower; F—Female inflorescence bearing three flowers with long bracts; G—Ovary.

incurved margins, rotund to orbicular, 2-2.5 mm long, 2-2.5 mm broad. *Stamens* equal in length, 1-1.5 mm long, inserted at the base of the tepals. *Rudimentary ovary* 0.3-0.7 mm long, 0.3-0.7 mm in diameter. *Female flowers* larger, purple, campanulate, 4-6 mm long on pedicels 0.5-3 mm long. *Tepals* free, 3-, 5- or 7-veined, differentiated as in male flowers; *outer tepals* shorter and narrower, membranous, lanceolate to narrowly ovate, 3-4 mm long, 1.5-2 mm broad; *inner tepals* longer and broader, thick

and fleshy with membranous incurved margins, elliptic to rotund, 4-5 mm long, 2-3 mm broad. *Staminodes* c. 0.5 mm long, insertion on tepals similar to stamens in male flowers. *Ovary* triquetrous, 1.5-2 mm long, 1.5-2 mm broad. *Stigmas* sessile on ovary.

Additional specimens examined. Type locality, T. S. Choo 67101 (male) and 67109 (female) (CANB), 67102 (male) and 67110 (female) (K), 67103 (male) and 67112 (female) (NSW), 67111 (female) (PERTH), 67105, -106, -107 (all male) and 67113, -114, -115 (all female) (UWA); Parkerville, T. S. Choo 6721 (UWA—spirit collection); 60 mile peg, Albany Highway, T. S. Choo 6741a (UWA—spirit collection); Western Australia, Oldfield, MEL 20707 (n.v.)

Distribution and ecology. Restricted to an area east and south-east of Perth (c. 40-100 km) in Jarrah (*Eucalyptus marginata*) forest in sandy or lateritic soils (Figure 3).

Flowering period. October-November.

On account of its perianth structure this species is seemingly closely related to *L. pauciflora*, but the two species differ as follows.

(a) The staminate inflorescence of *L. brittanii* is a spike, whereas that of *L. pauciflora* is a raceme. The pistillate inflorescence of the former species is very different from its staminate inflorescence and is a very reduced raceme bearing a terminal cluster of 1-5 flowers, whereas that of the latter species is very similar to its staminate inflorescence and bears 10-20 flowers in groups of two or three.

(b) The bracts, especially those of the pistillate flowers, of *L. brittanii* are very conspicuous and longer than the flowers, whereas those of *L. pauciflora* are shorter than the flowers.

(c) The leafy stems are erect and short, 0.5-1 cm long, and the leaves are basal in *L. brittanii*, whereas in *L. pauciflora* the stems are procumbent and elongated, 10-50 cm long, and the leaves are cauline.

The Oldfield specimen cited above, was originally identified as *Xerotes caespitosa* Benth. and later (Lee 1962: 162, 1966) identified as *L. sororia* (F. Muell. ex Benth.) Ewart (T. D. Macfarlane, pers. comm.), the sole record of that species from Western Australia.

The specific epithet commemorates Dr N. H. Brittan who supervised the author's postgraduate degree.

***Lomandra maritima* Choo, sp. nov. (Figure 2)**

Differt a *L. hermaphrodita* (C. Andrews) C. A. Gardner: foliis longioribus (30-50 cm), latioribus (2-5 mm), nec tortilibus, nec torsilibus; rachillis inflorescentianum alternis; floribus solitaribus raro 2-3 simul praesentibus; florescentia Aug-Oct.

Typus: On hillslope near Challenger Drive, City Beach, near Perth, Western Australia. 29 Sept. 1966. T. S. Choo 6698 (male) (holo: PERTH).

Perennial, rhizomatous dioecious herbs. *Leafy stems* erect and short, densely tufted. *Leaves* basal, soft, narrow-linear, flat 30-60 cm long, 2-5 mm broad, apex rounded; *sheathing bases* brown or purplish, with scarious margins splitting into

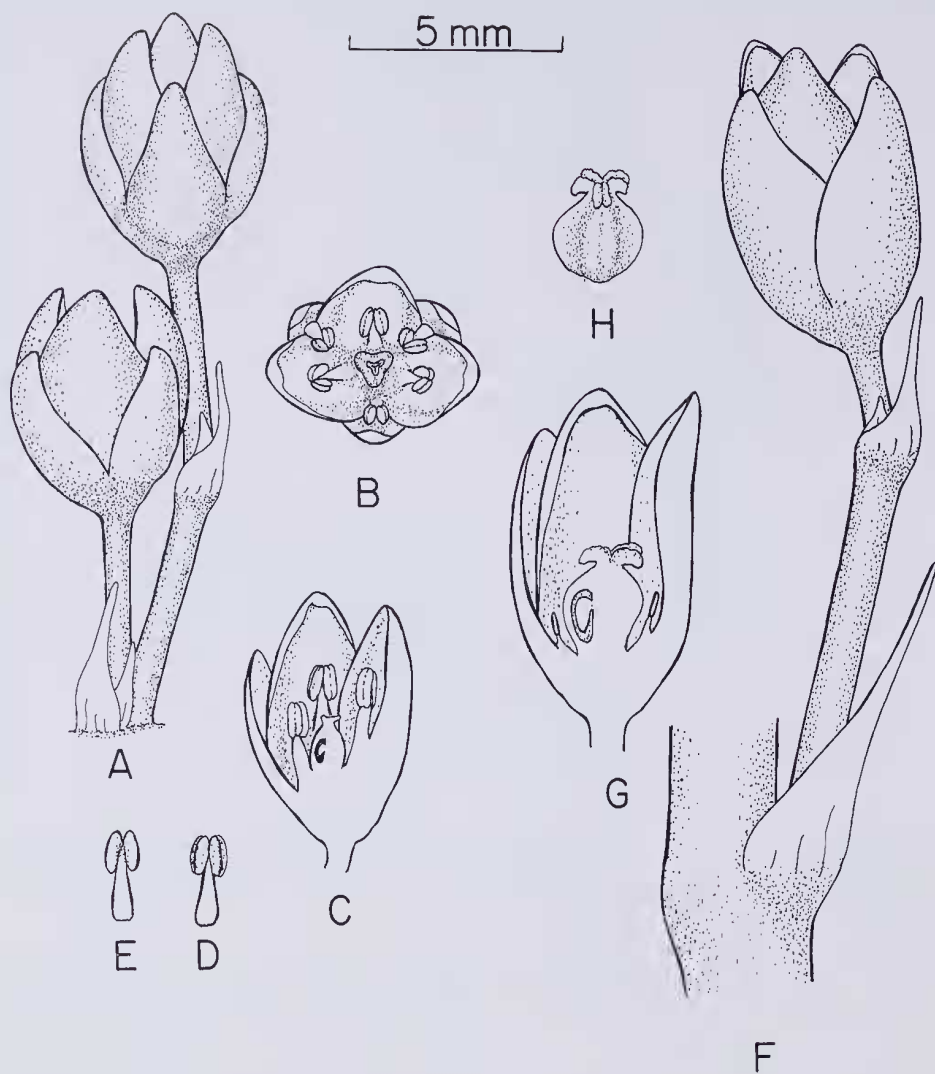


Figure 2. *Lomandra maritima*. A and B—Male flowers; C—Longitudinal section of male flower; D—Front view of stamen; E—Back view of stamen; F—Female flower; G—Longitudinal section of female flower; H—Ovary.

fibres. *Male and female inflorescences* similar, a panicle 5-10 cm long, with alternate rachillae bearing solitary scattered flowers, occasionally two or three together. Each flower subtended by a bract and a bracteole; *bract* membranous, lanceolate to ovate, 2-6 mm long, 1-2.5 mm broad; *bracteole* similar but smaller, 1-4 mm long, 0.5-1 mm broad. *Male flowers* purple and yellow, globular, 3.5-6 mm long, on pedicels 2-10 mm long. *Tepals* free, 3-, 5- or 7-veined, incurved, differentiated into an outer sepaloid whorl and an inner petaloid whorl; *outer tepals* purple, membranous, narrowly ovate to rotund, 3-4 mm long, 2-2.5 mm broad; *inner tepals* yellow, thick and fleshy with membranous incurved margins, broadly ovate to rotund 4-5 mm long, 2.5-3.5 mm broad. *Stamens* 1.5-2 mm long, inserted near the base of the tepals. *Rudimentary*

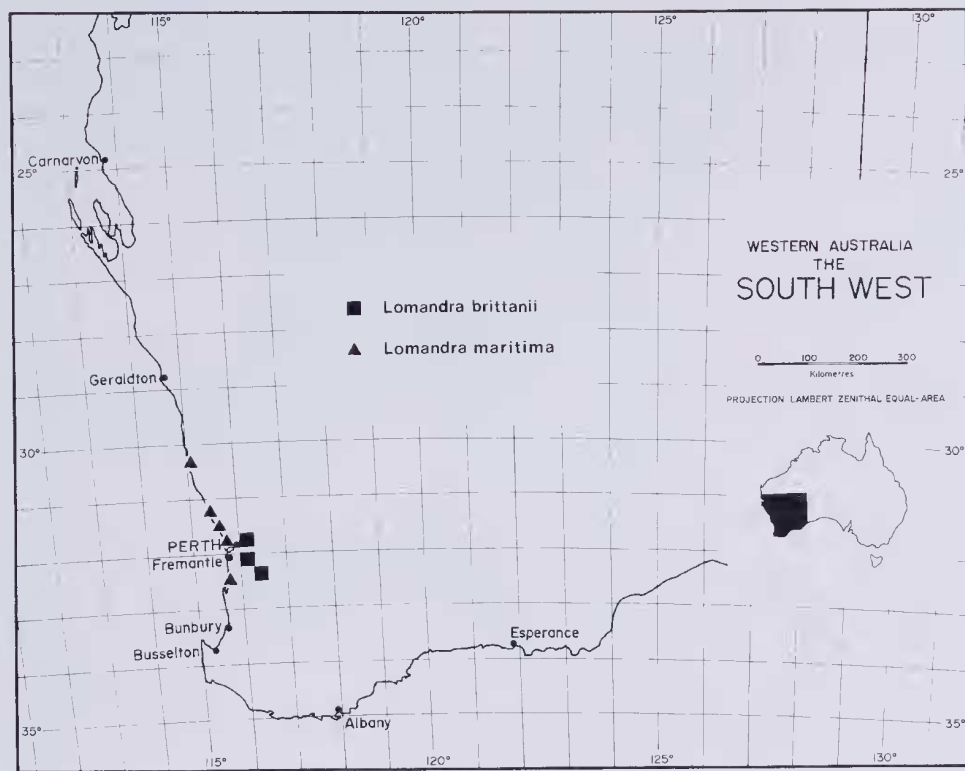


Figure 3. Distribution map for *L. brittanii* and *L. maritima*.

ovary 0.5-1 mm long, 0.5-1 mm in diameter. Female flowers purple and yellow, ellipsoid, 5-8 mm long on pedicels 1-5 mm long. Tepals as in staminate flowers but larger; outer tepals broadly to very broadly ovate; 3-5 mm long, 2.5-4 mm broad; inner tepals broadly ovate to rotund, 4-6 mm long, 2.5-4 mm broad. Staminodes 0.5-1 mm long, insertion similar to stamens in male flowers. Ovary triquetrous, 2-2.5 mm long, 2-2.5 mm in diameter. Stigmas sessile on ovary.

Additional specimens examined. Type locality, T. S. Choo 6695 (female) and 6696 (male) (K); Type locality, T. S. Choo 6697 (female), (PERTH); 1 mi [1.6 km] S of Jurien Bay township along track to lighthouse, T. S. Choo 68123 (UWA); Guilderton Beach, T. S. Choo 68125 (UWA); Yanchep Beach, 8 Aug. 1960, G. G. Smith s.n. (UWA); Kings Park, Perth, Oct. 1953, A. M. Baird s.n. (UWA); Pinjarra to Mandurah road, near Serpentine River, C. L. Wilson 828 (UWA).

Distribution and ecology. Restricted to the coastal region of south-west Western Australia, extending from Jurien Bay in the north (c. 200 km N of Perth) to Mandurah in the south (c. 70 km S of Perth)—Figure 3. It is found only in sandy soil.

Flowering period. Late August-October.

The new species is most closely related to *L. hermaphrodita* from which it differs in the following ways.

(a) *Lomandra maritima*, as the specific epithet implies, is a coastal species, whereas *L. hermaphrodita* is found only in inland localities.

(b) The flowering period of *L. maritima* is late August to October, whereas *L. hermaphrodita* flowers in April and May.

(c) The inflorescence branching in *L. maritima* is alternate, rarely opposite, whereas in *L. hermaphrodita* it is opposite or verticillate.

(d) The dry leaves of *L. maritima* are yellow or light brown, those of *L. hermaphrodita* are brick red or copper-coloured.

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